### Sequence Listing

- <110> Genentech, Inc.
  Ashkenazi, Avi J.
  Fong, Sherman
  Goddard, Audrey
  Gurney, Austin L.
  Napier, Mary A.
  Tumas, Daniel
  Wood, William I.
- <120> COMPOUNDS, COMPOSITIONS AND METHODS FOR THE TREATMENT OF DISEASES CHARACTERIZED BY A33- RELATED ANTIGENS
- <130> P1216R1PCT
- <140> US 09/254,465
- <141> 1999-03-05
- <150> PCT/US98/24855
- <151> 1998-11-20
- <150> US 60/066,364
- <151> 1997-11-21
- <150> US 60/078,936
- <151> 1998-03-20
- <150> PCT/US98/19437
- <151> 1998-09-17
- <160> 30
- <210> 1
- <211> 299
- <212> PRT
- <213> Homo sapiens
- <400> 1
- Met Gly Thr Lys Ala Gln Val Glu Arg Lys Leu Cys Leu Phe 1 5 10 15
- Ile Leu Ala Ile Leu Cys Ser Leu Ala Leu Gly Ser Val Thr
  20 25 30
- Val His Ser Ser Glu Pro Glu Val Arg Ile Pro Glu Asn Asn Pro 35 40 45
- Val Lys Leu Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val
- Glu Trp Lys Phe Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr
  65 70 75
- Asn Asn Lys Ile Thr Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu 80 85 90
- Pro Thr Gly Ile Thr Phe Lys Ser Val Thr Arg Glu Asp Thr Gly
  95 100 105
- Thr Tyr Thr Cys Met Val Ser Glu Glu Gly Gly Asn Ser Tyr Gly
  110 115 120

Glu Val Lys Val Lys Leu Ile Val Leu Val Pro Pro Ser Lys Pro 130 Thr Val Asn Ile Pro Ser Ser Ala Thr Ile Gly Asn Arg Ala Val Leu Thr Cys Ser Glu Gln Asp Gly Ser Pro Pro Ser Glu Tyr Thr 160 Trp Phe Lys Asp Gly Ile Val Met Pro Thr Asn Pro Lys Ser Thr 170 175 180 Arg Ala Phe Ser Asn Ser Ser Tyr Val Leu Asn Pro Thr Thr Gly 185 190 Glu Leu Val Phe Asp Pro Leu Ser Ala Ser Asp Thr Gly Glu Tyr 200 205 Ser Cys Glu Ala Arg Asn Gly Tyr Gly Thr Pro Met Thr Ser Asn 220 Ala Val Arg Met Glu Ala Val Glu Arg Asn Val Gly Val Ile Val 235 Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Ile Leu Val Phe 245 250 Gly Ile Trp Phe Ala Tyr Ser Arg Gly His Phe Asp Arg Thr Lys 265 Lys Gly Thr Ser Ser Lys Lys Val Ile Tyr Ser Gln Pro Ser Ala 275 280 Arg Ser Glu Gly Glu Phe Lys Gln Thr Ser Ser Phe Leu Val 290 <210> 2 <211> 321 <212> PRT <213> Homo sapiens <400> 2 Met Gly Ile Leu Leu Gly Leu Leu Leu Gly His Leu Thr Val Asp Thr Tyr Gly Arg Pro Ile Leu Glu Val Pro Glu Ser Val Thr Gly Pro Trp Lys Gly Asp Val Asn Leu Pro Cys Thr Tyr Asp Pro Leu Gln Gly Tyr Thr Gln Val Leu Val Lys Trp Leu Val Gln Arg Gly Ser Asp Pro Val Thr Ile Phe Leu Arg Asp Ser Ser Gly Asp 65 His Ile Gln Gln Ala Lys Tyr Gln Gly Arg Leu His Val Ser His Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met

100

Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val 125 130 Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys 155 Gln Ala Arg Gly Ser Pro Pro Ile Ser Tyr Ile Trp Tyr Lys Gln Gln Thr Asn Asn Gln Glu Pro Ile Lys Val Ala Thr Leu Ser Thr 1.90 Leu Leu Phe Lys Pro Ala Val Ile Ala Asp Ser Gly Ser Tyr Phe Cys Thr Ala Lys Gly Gln Val Gly Ser Glu Gln His Ser Asp Ile Val Lys Phe Val Val Lys Asp Ser Ser Lys Leu Leu Lys Thr Lys 230 235 Thr Glu Ala Pro Thr Thr Met Thr Tyr Pro Leu Lys Ala Thr Ser Thr Val Lys Gln Ser Trp Asp Trp Thr Thr Asp Met Asp Gly Tyr Leu Gly Glu Thr Ser Ala Gly Pro Gly Lys Ser Leu Pro Val Phe 275 280 Ala Ile Ile Leu Ile Ile Ser Leu Cys Cys Met Val Val Phe Thr Met Ala Tyr Ile Met Leu Cys Arg Lys Thr Ser Gln Gln Glu His

Val Tyr Glu Ala Ala Arg 320

<210> 3

<211> 390

<212> DNA

<213> artificial

<220>

<221> artificial sequence

<222> 1-390

<223> artificial sequence

<400> 3

cttettgeca actggtatea cetteaagte egtgacaegg gaagacaetg 50 ggacatacae ttgtatggte tetgaggaag geggeaaeag etatggggag 100 gteaaggtea ageteategt gettgtgeet ceatecaage etacagttaa 150 cateceetee tetgeeaeea ttgggaaeeg ggeagtgetg acatgeteag 200

aacaagatgg ttccccacct tctgaataca cctggttcaa agatgggata 250 gtgatgccta cgaatcccaa aagcacccgt gccttcagca actcttccta 300 tgtcctgaat cccacaacag gagagctggt ctttgatccc ctgtcagcct 350 ctgatactgg agaatacagc tgtgaggcac ggaatgggta 390 <210> 4 <211> 726 <212> DNA <213> artificial <220> <221> artificial sequence <222> 1-726 <223> artificial sequence <400> 4 teteagteee etegetgtag tegeggaget gtgttetgtt teeeaggagt 50 ccttcggcgg ctgttgtgct caqqtqcqcc tqatcqcqat qqqqacaaaq 100 gegeaagete gagaggaaac tgttgtgeet etteatattg gegateetgt 150 tgtgctccct ggcattgggc agtgttacag ttgcactctt ctgaacctga 200 agtcagaatt cctgagaata atcctgtgaa gttgtcctgt gcctactcgg 250 gettttette teecegtgtg gagtggaagt ttgaccaagg agacaccace 300 agactegttt getataataa caagateaca getteetatg aggacegggt 350 gacettettg ccaactggta teacetteaa gteegtgaca egggaagaca 400 ctgggacata cacttgtatg gtctctgagg aaggcggcaa cagctatggg 450 gaggtcaagg tcaagctcat cgtgcttgtg cctccatcca agcctacagt 500 taacatcccc tectetgeca ceattgggaa cegggeagtg etgacatget 550 cagaacaaga tggttcccca ccttctgaat acacctggtt caaagatggg 600 atagtgatgc ctacgaatcc caaaagcacc cgtgccttca gcaactcttc 650 ctatgtcctg aatcccacaa caggagagct ggtctttgat cccctgtcag 700 cctctgatac tggagaatac agctgt 726 <210> 5 <211> 1503 <212> DNA <213> artificial <220> <221> artificial sequence <222> 1-1503 <223> artificial sequence <400> 5 gcaggcaaag taccagggcc gcctgcatgt gagccacaag gttccaggag 50

atgtatccct ccaattgagc accetggaga tggatgaccg gagccactac 100

acgtgtgaag tcacctggca gactcctgat ggcaaccaag tcgtgagaga 150 taagattact gageteegtg teeagaaact etetgtetee aageeeacag 200 tgacaactgg cagcggttat ggcttcacgg tgccccaggg aatgaggatt 250 agcetteaat geeagggtte ggggttetee teccateagt tatatttggt 300 ataagcaaca gactaataac cagggaaccc atcaaagtag caaccctaag 350 taccttactc ttcaagcctg cggtgatagc cgactcaggc tcctatttct 400 gcactgccaa gggccaggtt ggctctgagc agcacagcga cattgtgaag 450 tttgtggtca aagactcctc aaagctactc aagaccaaga ctgaggcacc 500 tacaaccatg acatacccct tgaaagcaac atctacagtg aagcagtcct 550 gggactggac cactgacatg gatggctacc ttggagagac cagtgctggg 600 ccaggaaaga gcctgcctgt ctttgccatc atcctcatca tctccttqtq 650 ctgtatggtg gtttttacca tggcctatat catgctctgt cggaagacat 700 eccaacaaga geatgtetae gaageageea gggeaeatge eagagaggee 750 aacgactetg gagaaaccat gagggtggee atettegeaa gtggetgete 800 cagtgatgag ccaacttccc agaatctggg gcaacaacta ctctgatgag 850 ccctgcatag gacaggagta ccagatcatc gcccagatca atggcaacta 900 egecegeetg etggacacag tteetetgga ttatgagttt etggecactg 950 agggcaaaag tgtctgttaa aaatgcccca ttaggccagg atctgctgac 1000 ataattgcct agtcagtcct tgccttctgc atggccttct tccctgctac 1050 etetetteet ggatageeca aagtgteege etaceaacae tggageeget 1100 gggagtcact ggctttgccc tggaatttgc cagatgcatc tcaagtaagc 1150 cagetgetgg atttggetet gggeeettet agtatetetg eegggggett 1200 ctggtactcc tctctaaata ccagagggaa gatgcccata gcactaggac 1250 ttggtcatca tgcctacaga cactattcaa ctttggcatc ttgccaccag 1300 aagacccgag gggaggctca gctctgccag ctcagaggac cagctatatc 1350 caggatcatt tctctttctt cagggccaga cagcttttaa ttgaaattgt 1400 tatttcacag gccagggttc agttctgctc ctccactata agtctaatgt 1450 tctgactctc tcctggtgct caataaatat ctaatcataa cagcaaaaaa 1500 aaa 1503

<sup>.</sup> <210> 6

<sup>&</sup>lt;211> 319

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<400> 6 Met Val Gly Lys Met Trp Pro Val Leu Trp Thr Leu Cys Ala Val Arg Val Thr Val Asp Ala Ile Ser Val Glu Thr Pro Gln Asp Val Leu Arg Ala Ser Gln Gly Lys Ser Val Thr Leu Pro Cys Thr Tyr 45 His Thr Ser Thr Ser Ser Arg Glu Gly Leu Ile Gln Trp Asp Lys Leu Leu Thr His Thr Glu Arg Val Val Ile Trp Pro Phe Ser Asn Lys Asn Tyr Ile His Gly Glu Leu Tyr Lys Asn Arg Val Ser Ile Ser Asn Asn Ala Glu Gln Ser Asp Ala Ser Ile Thr Ile Asp Gln Leu Thr Met Ala Asp Asn Gly Thr Tyr Glu Cys Ser Val Ser Leu Met Ser Asp Leu Glu Gly Asn Thr Lys Ser Arg Val Arg Leu 125 130 Leu Val Leu Val Pro Pro Ser Lys Pro Glu Cys Gly Ile Glu Gly Glu Thr Ile Ile Gly Asn Asn Ile Gln Leu Thr Cys Gln Ser Lys Glu Gly Ser Pro Thr Pro Gln Tyr Ser Trp Lys Arg Tyr Asn Ile 170 175 180 Leu Asn Gln Glu Gln Pro Leu Ala Gln Pro Ala Ser Gly Gln Pro Val Ser Leu Lys Asn Ile Ser Thr Asp Thr Ser Gly Tyr Tyr Ile Cys Thr Ser Ser Asn Glu Glu Gly Thr Gln Phe Cys Asn Ile Thr 215 220 Val Ala Val Arg Ser Pro Ser Met Asn Val Ala Leu Tyr Val Gly 235 Ile Ala Val Gly Val Val Ala Ala Leu Ile Ile Ile Gly Ile Ile 250 Ile Tyr Cys Cys Cys Cys Arg Gly Lys Asp Asp Asn Thr Glu Asp Lys Glu Asp Ala Arg Pro Asn Arg Glu Ala Tyr Glu Glu Pro Pro 275 280 285 Glu Gln Leu Arg Glu Leu Ser Arg Glu Arg Glu Glu Glu Asp Asp Tyr Arg Gln Glu Gln Arg Ser Thr Gly Arg Glu Ser Pro Asp 305 310

## His Leu Asp Gln

- <210> 7 <211> 2181 <212> DNA
- <213> Homo sapiens

<400> 7 cccacgcgtc cgcccacgcg tccgcccacg ggtccgccca cgcgtccggg 50 ccaccagaag tttgagcctc tttggtagca ggaggctgga agaaaggaca 100 gaagtagete tggetgtgat ggggatetta etgggeetge tacteetggg 150 gcacctaaca gtggacactt atggccgtcc catcctggaa gtgccagaga 200 gtgtaacagg accttggaaa ggggatgtga atcttccctg cacctatgac 250 cccctgcaag gctacaccca agtcttggtg aagtggctgg tacaacgtgg 300 ctcagaccct gtcaccatct ttctacgtga ctcttctgga gaccatatcc 350 agcaggcaaa gtaccagggc cgcctgcatg tgagccacaa ggttccagga 400 gatgtatece tecaattgag caccetggag atggatgace ggagecacta 450 cacgtgtgaa gtcacctggc agactcctga tggcaaccaa gtcgtgagag 500 ataagattac tgageteegt gteeagaaac tetetgtete caageecaca 550 gtgacaactg gcagcggtta tggcttcacg gtgccccagg gaatgaggat 600 tagccttcaa tgccaggctc ggggttctcc tcccatcagt tatatttggt 650 ataagcaaca gactaataac caggaaccca tcaaagtagc aaccctaagt 700accttactct tcaagcctgc ggtgatagcc gactcaggct cctatttctg 750 cactgccaag ggccaggttg gctctgagca gcacagcgac attgtgaagt 800 ttgtggtcaa agactcctca aagctactca agaccaagac tgaggcacct 850 acaaccatga catacccctt gaaagcaaca tctacagtga agcagtcctg 900 ggactggacc actgacatgg atggctacct tggagagacc agtgctgggc 950 caggaaagag cetgeetgte tttgccatea teeteateat eteettgtge 1000 tgtatggtgg tttttaccat ggcctatatc atgctctgtc ggaagacatc 1050 ccaacaagag catgtctacg aagcagccag gtaagaaagt ctctcctctt 1100 ccatttttga ccccgtccct gccctcaatt ttgattactg gcaggaaatg 1150 tggaggaagg ggggtgtggc acagacccaa tcctaaggcc ggaggccttc 1200 agggtcagga catagetgee tteeetetet caggeacett etgaggttgt 1250 tttggccctc tgaacacaaa ggataattta gatccatctg ccttctgctt 1300 ccagaatccc tgggtggtag gatcctgata attaattggc aagaattgag 1350

gcagaagggt gggaaaccag gaccacagcc ccaagtccct tcttatgggt 1400 ggtgggctct tgggccatag ggcacatgcc agagaggcca acgactctgg 1450 agaaaccatg agggtggcca tettegcaag tggetgetee agtgatgage 1500 caacttccca gaatctgggc aacaactact ctgatgagcc ctgcatagga 1550 caggagtacc agatcatcgc ccagatcaat ggcaactacg cccgcctgct 1600 ggacacagtt cctctggatt atgagtttct ggccactgag ggcaaaagtg 1650 tctgttaaaa atgccccatt aggccaggat ctgctgacat aattgcctag 1700 tcagtccttg ccttctgcat ggccttcttc cctgctacct ctcttcctgg 1750 atageceaaa gtgteegeet accaacaetg gageegetgg gagteaetgg 1800 ctttgccctg gaatttgcca gatgcatctc aagtaagcca gctgctggat 1850 ttggctctgg gcccttctag tatctctgcc gggggcttct ggtactcctc 1900 tctaaatacc agagggaaga tgcccatagc actaggactt ggtcatcatg 1950 cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgaggg 2000 aggeteaget etgeeagete agaggaceag etatateeag gateatttet 2050 ctttcttcag ggccagacag cttttaattg aaattgttat ttcacaggcc 2100 agggttcagt tetgeteete caetataagt etaatgttet gaetetetee 2150 tggtgctcaa taaatatcta atcataacag c 2181

<210> 8

<211> 1295

<212> DNA

<213> Homo sapiens

## <400> 8

cccagaagtt caagggccc cggctcctg cgctcctgc gccggaagcc 50
tcgacctcct cagagcagcc ggctgccgcc ccgggaagat ggcgaggagg 100
agccgccacc gcctcctcct gctgctgctg cgctacctgg tggtcgccct 150
gggctatcat aaggcctatg ggttttctgc cccaaaagac caacaagtag 200
tcacagcagt agagtaccaa gaggctattt tagcctgcaa aaccccaaag 250
aagactgttt cctccagatt agagtggaag aaactgggtc ggagtgtctc 300
ctttgtctac tatcaacaga ctcttcaagg tgattttaaa aatcgagctg 350
agatgataga tttcaatatc cggatcaaaa atgtgacaag aagtgatgcg 400
gggaaatatc gttgtgaagt tagtgccca tctgagcaag gccaaaacct 450
ggaagaggat acagtcactc tggaagtatt agtggctca gcagttccat 500
catgtgaagt accctcttct gctctgagtg gaactgtggt agagctacga 550
tgtcaagaca aagaagggaa tccagctcct gaatacacat ggtttaagga 600

#### <400> 9

Met Ala Arg Arg Ser Arg His Arg Leu Leu Leu Leu Leu Arg 1 5 10 15

Tyr Leu Val Val Ala Leu Gly Tyr His Lys Ala Tyr Gly Phe Ser 20 25 30

Ala Pro Lys Asp Gln Gln Val Val Thr Ala Val Glu Tyr Gln Glu
35 40 45

Ala Ile Leu Ala Cys Lys Thr Pro Lys Lys Thr Val Ser Ser Arg
50 55 60

Leu Glu Trp Lys Lys Leu Gly Arg Ser Val Ser Phe Val Tyr Tyr
65 70 75

Gln Gln Thr Leu Gln Gly Asp Phe Lys Asn Arg Ala Glu Met Ile 80 85 90

Asp Phe Asn Ile Arg Ile Lys Asn Val Thr Arg Ser Asp Ala Gly 95 100 · 105

Lys Tyr Arg Cys Glu Val Ser Ala Pro Ser Glu Gln Gly Gln Asn 110 115 120

Leu Glu Glu Asp Thr Val Thr Leu Glu Val Leu Val Ala Pro Ala

Val Pro Ser Cys Glu Val Pro Ser Ser Ala Leu Ser Gly Thr Val
140 145 150

<sup>&</sup>lt;210> 9

<sup>&</sup>lt;211> 312

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

Val Glu Leu Arg Cys Gln Asp Lys Glu Gly Asn Pro Ala Pro Glu Tyr Thr Trp Phe Lys Asp Gly Ile Arg Leu Leu Glu Asn Pro Arg 170 Leu Gly Ser Gln Ser Thr Asn Ser Ser Tyr Thr Met Asn Thr Lys 190 Thr Gly Thr Leu Gln Phe Asn Thr Val Ser Lys Leu Asp Thr Gly Glu Tyr Ser Cys Glu Ala Arg Asn Ser Val Gly Tyr Arg Arg Cys 220 Pro Gly Lys Arg Met Gln Val Asp Asp Leu Asn Ile Ser Gly Ile 230 235 240 Ile Ala Ala Val Val Val Ala Leu Val Ile Ser Val Cys Gly 250 Leu Gly Val Cys Tyr Ala Gln Arg Lys Gly Tyr Phe Ser Lys Glu Thr Ser Phe Gln Lys Ser Asn Ser Ser Ser Lys Ala Thr Thr Met 280 Ser Glu Asn Val Gln Trp Leu Thr Pro Val Ile Pro Ala Leu Trp Lys Ala Ala Gly Gly Ser Arg Gly Gln Glu Phe <210> 10 <211> 300 <212> PRT <213> Mus musculus <400> 10 Met Gly Thr Glu Gly Lys Ala Gly Arg Lys Leu Leu Phe Leu Phe Thr Ser Met Ile Leu Gly Ser Leu Val Gln Gly Lys Gly Ser Val Tyr Thr Ala Gln Ser Asp Val Gln Val Pro Glu Asn Glu Ser Ile Lys Leu Thr Cys Thr Tyr Ser Gly Phe Ser Ser Pro Arg Val Glu Trp Lys Phe Val Gln Gly Ser Thr Thr Ala Leu Val Cys Tyr Asn Ser Gln Ile Thr Ala Pro Tyr Ala Asp Arg Val Thr Phe Ser Ser Ser Gly Ile Thr Phe Ser Ser Val Thr Arg Lys Asp Asn Gly Glu Tyr Thr Cys Met Val Ser Glu Glu Gly Gly Gln Asn Tyr Gly Glu

115

Val Ser Ile His Leu Thr Val Leu Val Pro Pro Ser Lys Pro Thr Ile Ser Val Pro Ser Ser Val Thr Ile Gly Asn Arg Ala Val Leu 140 145 Thr Cys Ser Glu His Asp Gly Ser Pro Pro Ser Glu Tyr Ser Trp Phe Lys Asp Gly Ile Ser Met Leu Thr Ala Asp Ala Lys Lys Thr 170 Arg Ala Phe Met Asn Ser Ser Phe Thr Ile Asp Pro Lys Ser Gly 185 190 Asp Leu Ile Phe Asp Pro Val Thr Ala Phe Asp Ser Gly Glu Tyr Tyr Cys Gln Ala Gln Asn Gly Tyr Gly Thr Ala Met Arg Ser Glu Ala Ala His Met Asp Ala Val Glu Leu Asn Val Gly Gly Ile Val 230 Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Leu Leu Ile Phe Gly Val Trp Phe Ala Tyr Ser Arg Gly Tyr Phe Glu Thr Thr Lys 260 Lys Gly Thr Ala Pro Gly Lys Lys Val Ile Tyr Ser Gln Pro Ser Thr Arg Ser Glu Gly Glu Phe Lys Gln Thr Ser Ser Phe Leu Val 295

<210> 11

<211> 2181

<212> DNA

<213> Homo sapiens

# <400> 11

ccaccagad tttgagcete tttggtagca ggaggetgga agaaaggaca 100
gaagtagete tggetgtat ggggatetta etgggeetge tacteetggg 150
geacetaaca gtggacaett atggeegtee cateetggaa gtgeeagaga 200
gtgtaacagg acettggaaa ggggatgtga atetteeetg cacetatgae 250
eccetgeaag getacacea agtettggtg aagtggetgg tacaaegtgg 300
eteagaceet gteaceatet ttetaegtga etettetgga gaceatatee 350
ageaggeaaa gtaceaggge egeetgeatg tgageeacaa ggtteeagga 400
gatgtateee teeaattgag caceetggag atggatgaee ggageeacta 450
eaegtgtgaa gteacetgg agaeteetga tggeaaceaa gtegtgagag 500
ataagattae tgageteegt gteeagaaae teetetgtee caageecaca 550

gtgacaactg gcagcggtta tggcttcacg gtgccccagg gaatgaggat 600 tageetteaa tgeeaggete ggggttetee teecateagt tatatttggt 650 ataagcaaca gactaataac caggaaccca tcaaagtagc aaccctaagt 700 accttactet teaageetge ggtgatagee gaeteagget cetatttetg 750 cactgccaag ggccaggttg gctctgagca gcacagcgac attgtgaagt 800 ttgtggtcaa agactcctca aagctactca agaccaagac tgaggcacct 850 acaaccatga catacccctt gaaagcaaca tctacagtga agcagtcctg 900 ggactggacc actgacatgg atggctacct tggagagacc agtgctgggc 950 caggaaagag cctgcctgtc tttgccatca tcctcatcat ctccttgtgc 1000 tgtatggtgg tttttaccat ggcctatatc atgctctgtc ggaagacatc 1050 ccaacaagag catgtctacg aagcagccag gtaagaaagt ctctcctctt 1100 ccatttttga ccccgtccct gccctcaatt ttgattactg gcaggaaatg 1150 tggaggaagg ggggtgtggc acagacccaa tcctaaggcc ggaggccttc 1200 agggtcagga catagctgcc ttccctctct caggcacctt ctgaggttgt 1250 tttggccctc tgaacacaaa ggataattta gatccatctg ccttctgctt 1300 ccagaatccc tgggtggtag gatcctgata attaattggc aagaattgag 1350 gcagaagggt gggaaaccag gaccacagcc ccaagtccct tcttatgggt 1400 ggtgggctct tgggccatag ggcacatgcc agagaggcca acgactctgg 1450 agaaaccatg agggtggcca tettegeaag tggetgetee agtgatgage 1500 caacttccca gaatctgggc aacaactact ctgatgagcc ctgcatagga 1550 caggagtacc agatcatcgc ccagatcaat ggcaactacg cccgcctgct 1600 ggacacagtt cctctggatt atgagtttct ggccactgag ggcaaaagtg 1650 tetgttaaaa atgeeecatt aggeeaggat etgetgaeat aattgeetag 1700 teagteettg cettetgeat ggeettette eetgetaeet etetteetgg 1750 atageceaaa gtgteegeet accaacaetg gageegetgg gagteaetgg 1800 ctttgccctg gaatttgcca gatgcatctc aagtaagcca gctgctggat 1850 ttggctctgg gcccttctag tatctctgcc gggggcttct ggtactcctc 1900 tctaaatacc agagggaaga tgcccatagc actaggactt ggtcatcatg 1950 cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgaggg 2000 aggeteaget etgeeagete agaggaceag etatateeag gateatttet 2050 ctttcttcag ggccagacag cttttaattg aaattgttat ttcacaggcc 2100 agggttcagt tetgeteete caetataagt etaatgttet gaetetetee 2150

```
tggtgctcaa taaatatcta atcataacag c 2181
<210> 12
<211> 24
<212> DNA
<213> artificial sequence
<223> artificial sequence
<400> 12
 tcgcggagct gtgttctgtt tccc 24
<210> 13
<211> 50
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 13
tgatcgcgat ggggacaaag gcgcaagctc gagaggaaac tgttgtgcct 50
<210> 14
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 14
acacctggtt caaagatggg 20
<210> 15
<211> 24
<212> DNA
<213> artificial sequence
<223> artificial sequence
<400> 15
taggaagagt tgctgaaggc acgg 24
<210> 16
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 16
ttgccttact caggtgctac 20
<210> 17
<211> 20
<212> DNA
<213> artificial sequence
```

<220>

```
<223> artificial sequence
 <400> 17
 actcagcagt ggtaggaaag 20
 <210> 18
 <211> 24
 <212> DNA
 <213> artificial sequence
 <220>
 <223> artificial sequence
 <400> 18
 tatccctcca attgagcacc ctgg 24
 <210> 19
 <211> 21
 <212> DNA
 <213> artificial sequence
 <220>
<223> artificial sequence
 <400> 19
 gtcggaagac atcccaacaa g 21
 <210> 20
 <211> 24
 <212> DNA
 <213> artificial sequence
 <220>
 <223> artificial sequence
 <400> 20
 cttcacaatg tcgctgtgct gctc 24
 <210> 21
 <211> 24
 <212> DNA
 <213> artificial sequence
 <223> artificial sequence
 <400> 21
  agccaaatcc agcagctggc ttac 24
 <210> 22
 <211> 50
 <212> DNA
 <213> artificial sequence.
 <220>
 <223> artificial sequence
 <400> 22
  tggatgaccg gagccactac acgtgtgaag tcacctggca gactcctgat 50
 <210> 23
 <211> 260
 <212> PRT
```

# <213> Homo sapiens

<400 Leu 1		Leu	Gly	Ser 5	Val	Thr	Val	His	Ser 10	Ser	Glu	Pro	Glu	Val 15
Arg	Ile	Pro	Glu	Asn 20	Asn	Pro	Val	Lys	Leu 25	Ser	Cys	Ala	Tyr	Ser 30
Gly	Phe	Ser	Ser	Pro 35	Arg	Val	Glu	Trp	Lys 40	Phe	Asp	Gln	Gly	Asp 45
Thr	Thr	Arg	Leu	Val 50	Cys	Tyr	Asn	Asn	Lys 55	Ile	Thr	Ala	Ser	Tyr 60
Glu	Asp	Arg	Val	Thr 65	Phe	Leu	Pro	Thr	Gly 70	Ile	Thr	Phe	Lys	Ser 75
Val	Thr	Arg	Glu	Asp 80	Thr	Gly	Thr	Tyr	Thr 85	Cys	Met	Val	Ser	Glu 90
Glu	Gly	Gly	Asn	Ser 95	Tyr	Gly	Glu	Val	Lys 100	Val	Lys	Leu	Ile	Val 105
Leu	Val	Pro	Pro	Ser 110	Lys	Pro	Thr	Val	Asn 115	Ile	Pro	Ser	Ser	Ala 120
Thr	Ile	Gly	Asn	Arg 125	Ala	Val	Leu	Thr	Cys 130	Ser	Glu	Gln	Asp	Gly 135
Ser	Pro	Pro	Ser	Glu 140	Tyr	Thr	Trp	Phe	Lys 145	Asp	Gly	Ile	Val	Met 150
Pro	Thr	Asn	Pro	Lys 155	Ser	Thr	Arg	Ala	Phe 160	Ser	Asn	Ser	Ser	Tyr 165
Val	Leu	Asn	Pro	Thr 170	Thr	Gly	Glu	Leu	Val 175		Asp	Pro	Leu	Ser 180
Ala	Ser	Asp	Thr	Gly 185	Glu	Tyr	Ser	Cys	Glu 190	Ala	Arg	Asn	Gly	Туг 195
Gly	Thr	Pro	Met	Thr 200	Ser	Asn	Ala	Val	Arg 205	Met	Glu	Ala	Val	Glu 210
Arg	Asn	Val	Gly	Val 215	Ile	Val	Ala	Ala	Val 220	Leu	Val	Thr	Leu	Ile 225
Leu	Leu	Gly	Ile	Leu 230	Val	Phe	Gly	Ile	Trp 235	Phe	Ala	Tyr	Ser	Arg 240
Gly	His	Phe	Asp	Arg 245	Thr	Lys	Lys	Gly	Thr 250	Ser	Ser	Lys	Lys	Val 255
Ile	Tyr	Ser	Gln	Pro 260			•			-				

<210> 24 <211> 270

<212> PRT

<213> Homo sapiens

260

<400> 24

Val Arg Val Thr Val Asp Ala Ile Ser Val Glu Thr Pro Gln Asp Val Leu Arg Ala Ser Gln Gly Lys Ser Val Thr Leu Pro Cys Thr Tyr His Thr Ser Thr Ser Ser Arg Glu Gly Leu Ile Gln Trp Asp Lys Leu Leu Thr His Thr Glu Arg Val Val Ile Trp Pro Phe Ser Asn Lys Asn Tyr Ile His Gly Glu Leu Tyr Lys Asn Arg Val Ser Ile Ser Asn Asn Ala Glu Gln Ser Asp Ala Ser Ile Thr Ile Asp Gln Leu Thr Met Ala Asp Asn Gly Thr Tyr Glu Cys Ser Val Ser Leu Met Ser Asp Leu Glu Gly Asn Thr Lys Ser Arg Val Arg Leu Leu Val Leu Val Pro Pro Ser Lys Pro Glu Cys Gly Ile Glu 125 130 Gly Glu Thr Ile Ile Gly Asn Asn Ile Gln Leu Thr Cys Gln Ser Lys Glu Gly Ser Pro Thr Pro Gln Tyr Ser Trp Lys Arg Tyr Asn Ile Leu Asn Gln Glu Gln Pro Leu Ala Gln Pro Ala Ser Gly Gln 170 175 Pro Val Ser Leu Lys Asn Ile Ser Thr Asp Thr Ser Gly Tyr Tyr Ile Cys Thr Ser Ser Asn Glu Glu Gly Thr Gln Phe Cys Asn Ile 200 Thr Val Ala Val Arg Ser Pro Ser Met Asn Val Ala Leu Tyr Val 215 220 Gly Ile Ala Val Gly Val Val Ala Ala Leu Ile Ile Gly Ile 230 Ile Ile Tyr Cys Cys Cys Cys Arg Gly Lys Asp Asp Asn Thr Glu Asp Lys Glu Asp Ala Arg Pro Asn Arg Glu Ala Tyr Glu Glu Pro 260 265 <210> 25 <211> 263 <212> PRT <213> Homo sapiens

<400> 25

Leu Cys Ser Leu Ala Leu Gly Ser Val Thr Val His Ser Ser Glu 1

Pro	Glu	Val	Arg	Ile 20	Pro	Glu	Asn	Asn	Pro 25	Val	Lys	Leu	Ser	Cys 30
Ala	Tyr	Ser	Gly	Phe 35	Ser	Ser	Pro	Arg	Val 40	Glu	Trp	Lys	Phe	Asp 45
Gln	Gly	Asp	Thr	Thr 50	Arg	Leu	Val	Cys	Tyr 55	Asn	Asn	Lys	Ile	Thr 60
Ala	Ser	Tyr	Glu	Asp 65	Arg	Val	Thr	Phe	Leu 70	Pro	Thr	Gly	Ile	Thr 75
Phe	Lys	Ser	Val	Thr 80	Arg	Glu	Asp	Thr	Gly 85	Thr	Tyr	Thr	Cys	Met 90
Val	Ser	Glu	Glu	Gly 95	Gly	Asn	Ser	Tyr	Gly 100	Glu	Val	Lys	Val	Lys 105
Leu	Ile	Val	Leu	Val 110	Pro	Pro	Ser	Lys	Pro 115	Thr	Val	Asn	Ile	Pro 120
Ser	Ser	Ala	Thr	Ile 125	Gly	Asn	Arg	Ala	Val 130	Leu	Thr	Сув	Ser	Glu 135
Gln	Asp	Gly	Ser	Pro 140	Pro	Ser	Glu	Tyr	Thr 145	Trp	Phe	Lys	Asp	Gly 150
Ile	Val	Met	Pro	Thr 155	Asn	Pro	Lys	Ser	Thr 160	Arg	Ala	Phe	Ser	Asn 165
Ser	Ser	Tyr	Val	Leu 170	Asn	Pro	Thr	Thr	Gly 175	Glu	Leu	Val	Phe	Asp 180
Pro	Leu	Ser	Ala	Ser 185	Asp	Thr	Gly	Glu	Tyr 190	Ser	Cys	Glu	Ala	Arg 195
Ásn	Gly	Tyr	Gly	Thr 200	Pro	Met	Thr	Ser	Asn 205		Val	Arg	Met	Glu 210
Ala	Val	Glu	Arg	Asn 215	Val	Gly	Val	Ile	Val 220	Ala	Ala	Val	Leu	Val 225
Thr	Leu	Ile	Leu	Leu 230	Gly	Ile	Leu	Val	Phe 235	Gly	Ile	Trp	Phe	Ala 240
	Ser	Arg	Gly	His 245	Phe	Asp	Arg	Thr	Lys 250	Lys	Gly	Thr	Ser	Ser 255
Lys	Lys	Val	Ile	Tyr 260	Ser	Gln	Pro							
<210> 26 <211> 273 <212> PRT <213> Homo sapiens														
<400> Leu 1		Ala	Val	Arg 5	Val	Thr	Val	Asp	Ala 10	Ile	Ser	Val	Glu	Thr 15

Pro Gln Asp Val Leu Arg Ala Ser Gln Gly Lys Ser Val Thr Leu 20 25 30

Pro Cys Thr Tyr His Thr Ser Thr Ser Ser Arg Glu Gly Leu Ile Gln Trp Asp Lys Leu Leu Leu Thr His Thr Glu Arg Val Val Ile Trp Pro Phe Ser Asn Lys Asn Tyr Ile His Gly Glu Leu Tyr Lys Asn Arg Val Ser Ile Ser Asn Asn Ala Glu Gln Ser Asp Ala Ser Ile Thr Ile Asp Gln Leu Thr Met Ala Asp Asn Gly Thr Tyr Glu Cys Ser Val Ser Leu Met Ser Asp Leu Glu Gly Asn Thr Lys Ser Arg Val Arg Leu Leu Val Leu Val Pro Pro Ser Lys Pro Glu Cys 125 130 Gly Ile Glu Gly Glu Thr Ile Ile Gly Asn Asn Ile Gln Leu Thr Cys Gln Ser Lys Glu Gly Ser Pro Thr Pro Gln Tyr Ser Trp Lys Arg Tyr Asn Ile Leu Asn Gln Glu Gln Pro Leu Ala Gln Pro Ala 175 Ser Gly Gln Pro Val Ser Leu Lys Asn Ile Ser Thr Asp Thr Ser Gly Tyr Tyr Ile Cys Thr Ser Ser Asn Glu Glu Gly Thr Gln Phe 205 Cys Asn Ile Thr Val Ala Val Arg Ser Pro Ser Met Asn Val Ala 215 220 Leu Tyr Val Gly Ile Ala Val Gly Val Val Ala Ala Leu Ile Ile Ile Gly Ile Ile Tyr Cys Cys Cys Cys Arg Gly Lys Asp Asp Asn Thr Glu Asp Lys Glu Asp Ala Arg Pro Asn Arg Glu Ala Tyr 260 265

Glu Glu Pro

<210> 27

<211> 413

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 27

ctcgagccgc tcgagccgtg cggggaaata tcgttgtgaa gttagtgccc 50 catctgagca aggccaaaac ctggaagagg atacagtcac tctggaagta 100

```
ttagtggete cagcagttee atcatgtgaa gtaccetett etgetetgag 150
tggaactgtg gtagagctac gatgtcaaga caaagaaggg aatccagctc 200
ctgaatacac atggtttaag gatggcatcc gtttgctaga aaatcccaga 250
cttggctccc aaagcaccaa cagctcatac acaatgaata caaaaactgg 300
aactetgeaa tttaataetg ttteeaaaet ggaeaetgga gaatatteet 350
gtgaagcccg caattctgtt ggatatcgca ggtgtcctgg ggaaacgaat 400
gcaagtagat gat 413
<210> 28
<211> 22
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 28
atcgttgtga agttagtgcc cc 22
<210> 29
<211> 23
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 29
acctgcgata tccaacagaa ttg 23
<210> 30
<211> 48
<212> DNA
<213> artificial sequence
<220>
<223> artificial sequence
<400> 30
```

ggaagaggat acagtcactc tggaagtatt agtggctcca gcagttcc 48